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SEQUENCE LISTING

<110> Ades, Edwin W.
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Jue, Danny L.
Carlone, George M.
Zeiler, Joan L.
Westerlink, Maria Anna J.

<120> Multiple Antigenic Peptides Immunogenic
Against Streptococcus Pneumonia

<130> 14114.0341U1

<140> 09/613,092

<141> 2000-07-10

<160> 10

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1330

<212> DNA

<213> Streptococcus Pneumoniae

<220>

<221> CDS

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tatcgtgctt acagctgcta gtttctttct cattagcttc tttatcgctc ccaaacaacg 120
atatttgaaa ctgaaaaata aacatttggt aaaataaggg gcaaagccct aataaattgg 180
aggatcta atg aaa aaa tta ggt aca tta ctc gtt ctc ttt ctt tct gca 230
Met Lys Lys Leu Gly Thr Leu Leu Val Leu Phe Leu Ser Ala
1 5 10

atc att ctt gta gca tgt gct agc gga aaa aaa gat aca act tct ggt 278
Ile Ile Leu Val Ala Cys Ala Ser Gly Lys Lys Asp Thr Thr Ser Gly
15 20 25 30

caa aaa cta aaa gtt gtt gct aca aac tca atc atc gct gat att act 326
Gln Lys Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr
35 40 45

aaa aat att gct ggt gac aaa att gac ctt cat agt atc gtt ccg att 374

Lys	Asn	Ile	Ala	Gly	Asp	Lys	Ile	Asp	Leu	His	Ser	Ile	Val	Pro	Ile		
			50					55					60				
ggg	caa	gac	cca	cac	gaa	tac	gaa	cca	ctt	cct	gaa	gac	gtt	aag	aaa		422
Gly	Gln	Asp	Pro	His	Glu	Tyr	Glu	Pro	Leu	Pro	Glu	Asp	Val	Lys	Lys		
		65					70					75					
act	tct	gag	gct	gat	ttg	att	ttc	tat	aac	ggg	atc	aac	ctt	gaa	aca		470
Thr	Ser	Glu	Ala	Asp	Leu	Ile	Phe	Tyr	Asn	Gly	Ile	Asn	Leu	Glu	Thr		
	80					85					90						
ggg	ggc	aat	gct	tgg	ttt	aca	aaa	ttg	gta	gaa	aat	gcc	aag	aaa	act		518
Gly	Gly	Asn	Ala	Trp	Phe	Thr	Lys	Leu	Val	Glu	Asn	Ala	Lys	Lys	Thr		
	95				100					105					110		
gaa	aac	aaa	gac	tac	ttc	gca	gtc	agc	gac	ggc	gtt	gat	gtt	atc	tac		566
Glu	Asn	Lys	Asp	Tyr	Phe	Ala	Val	Ser	Asp	Gly	Val	Asp	Val	Ile	Tyr		
			115						120					125			
ctt	gaa	ggg	caa	aat	gaa	aaa	gga	aaa	gaa	gac	cca	cac	gct	tgg	ctt		614
Leu	Glu	Gly	Gln	Asn	Glu	Lys	Gly	Lys	Glu	Asp	Pro	His	Ala	Trp	Leu		
			130					135					140				
aac	ctt	gaa	aac	ggg	att	att	ttt	gct	aaa	aat	atc	gcc	aaa	caa	ttg		662
Asn	Leu	Glu	Asn	Gly	Ile	Ile	Phe	Ala	Lys	Asn	Ile	Ala	Lys	Gln	Leu		
		145					150					155					
agc	gcc	aaa	gac	cct	aac	aat	aaa	gaa	ttc	tat	gaa	aaa	aat	ctc	aaa		710
Ser	Ala	Lys	Asp	Pro	Asn	Asn	Lys	Glu	Phe	Tyr	Glu	Lys	Asn	Leu	Lys		
	160					165					170						
gaa	tat	act	gat	aag	tta	gac	aaa	ctt	gat	aaa	gaa	agt	aag	gat	aaa		758
Glu	Tyr	Thr	Asp	Lys	Leu	Asp	Lys	Leu	Asp	Lys	Glu	Ser	Lys	Asp	Lys		
	175				180					185					190		
ttt	aat	aag	atc	cct	gct	gaa	aag	aaa	ctc	att	gta	acc	agc	gaa	gga		806
Phe	Asn	Lys	Ile	Pro	Ala	Glu	Lys	Lys	Leu	Ile	Val	Thr	Ser	Glu	Gly		
				195					200					205			
gca	ttc	aaa	tac	ttc	tct	aaa	gcc	tat	ggg	gtc	cca	agt	gcc	tac	atc		854
Ala	Phe	Lys	Tyr	Phe	Ser	Lys	Ala	Tyr	Gly	Val	Pro	Ser	Ala	Tyr	Ile		
			210					215					220				
tgg	gaa	atc	aat	act	gaa	gaa	gaa	gga	act	cct	gaa	caa	atc	aag	acc		902
Trp	Glu	Ile	Asn	Thr	Glu	Glu	Glu	Gly	Thr	Pro	Glu	Gln	Ile	Lys	Thr		
		225					230					235					
ttg	gtt	gaa	aaa	ctt	cgc	caa	aca	aaa	gtt	cca	tca	ctc	ttt	gta	gaa		950
Leu	Val	Glu	Lys	Leu	Arg	Gln	Thr	Lys	Val	Pro	Ser	Leu	Phe	Val	Glu		
	240					245					250						

tca agt gtg gat gac cgt cca atg aaa act gtt tct caa gac aca aac 998
Ser Ser Val Asp Asp Arg Pro Met Lys Thr Val Ser Gln Asp Thr Asn
255 260 265 270

atc cca atc tac gca caa atc ttt act gac tct atc gca gaa caa ggt 1046
Ile Pro Ile Tyr Ala Gln Ile Phe Thr Asp Ser Ile Ala Glu Gln Gly
275 280 285

aaa gaa ggc gac agc tac tac agc atg atg aaa tac aac ctt gac aag 1094
Lys Glu Gly Asp Ser Tyr Tyr Ser Met Met Lys Tyr Asn Leu Asp Lys
290 295 300

att gct gaa gga ttg gca aaa taagcctctg aaaaacgtca ttctcatgtg 1145
Ile Ala Glu Gly Leu Ala Lys
305

agctggcggtt ttttctatgc ccacatttcc ggtcaaataca ttggaaaatt ctgactgttt 1205
cagatacaat ggaagaaaaa agattggagt atcctatggg aacttttctc ggaaatcctg 1265
tgagcttttac aggtaaacaa ctacaagtcg gcgacaaggc gcttgatttt tctcttacta 1325
caaca 1330

<210> 2

<211> 309

<212> PRT

<213> Streptococcus Pneumoniae

<400> 2

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20 25 30
Leu Lys Val Val Ala Thr Asn Ser Ile Ile Ala Asp Ile Thr Lys Asn
35 40 45
Ile Ala Gly Asp Lys Ile Asp Leu His Ser Ile Val Pro Ile Gly Gln
50 55 60
Asp Pro His Glu Tyr Glu Pro Leu Pro Glu Asp Val Lys Lys Thr Ser
65 70 75 80
Glu Ala Asp Leu Ile Phe Tyr Asn Gly Ile Asn Leu Glu Thr Gly Gly
85 90 95
Asn Ala Trp Phe Thr Lys Leu Val Glu Asn Ala Lys Lys Thr Glu Asn
100 105 110
Lys Asp Tyr Phe Ala Val Ser Asp Gly Val Asp Val Ile Tyr Leu Glu
115 120 125
Gly Gln Asn Glu Lys Gly Lys Glu Asp Pro His Ala Trp Leu Asn Leu
130 135 140
Glu Asn Gly Ile Ile Phe Ala Lys Asn Ile Ala Lys Gln Leu Ser Ala
145 150 155 160
Lys Asp Pro Asn Asn Lys Glu Phe Tyr Glu Lys Asn Leu Lys Glu Tyr
165 170 175
Thr Asp Lys Leu Asp Lys Leu Asp Lys Glu Ser Lys Asp Lys Phe Asn
180 185 190

Lys Ile Pro Ala Glu Lys Lys Leu Ile Val Thr Ser Glu Gly Ala Phe
 195 200 205
 Lys Tyr Phe Ser Lys Ala Tyr Gly Val Pro Ser Ala Tyr Ile Trp Glu
 210 215 220
 Ile Asn Thr Glu Glu Glu Gly Thr Pro Glu Gln Ile Lys Thr Leu Val
 225 230 235 240
 Glu Lys Leu Arg Gln Thr Lys Val Pro Ser Leu Phe Val Glu Ser Ser
 245 250 255
 Val Asp Asp Arg Pro Met Lys Thr Val Ser Gln Asp Thr Asn Ile Pro
 260 265 270
 Ile Tyr Ala Gln Ile Phe Thr Asp Ser Ile Ala Glu Gln Gly Lys Glu
 275 280 285
 Gly Asp Ser Tyr Tyr Ser Met Met Lys Tyr Asn Leu Asp Lys Ile Ala
 290 295 300
 Glu Gly Leu Ala Lys
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<210> 3
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence; note =
 synthetic construct

<400> 3
 aggatctaata g

21

<210> 4
 <211> 21
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence; note =
 synthetic construct

<400> 4
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21

<210> 5
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
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 synthetic construct

<400> 5

Thr	Val	Ser	Arg	Val	Pro	Trp	Thr	Ala	Trp	Ala	Phe	His	Gly	Tyr
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<210> 6
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<212> PRT
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<220>
<223> Description of Artificial Sequence; note =
synthetic construct

Arg	Ser	Tyr	Gln	His	Asp	Leu	Arg	Ala	Tyr	Gly	Phe	Trp	Arg	Leu
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<210> 7
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
synthetic construct

Leu	Val	Arg	Arg	Phe	Val	His	Arg	Arg	Pro	His	Val	Glu	Ser	Gln
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<210> 8
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence; note =
synthetic construct

Leu	Val	Arg	Arg	Phe	Val	His	His	Arg	Pro	His	Val	Glu	Ser	Gln
1				5					10					15

<210> 9
<211> 15
<212> PRT
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<220>
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synthetic construct

<400> 9

Leu Val Arg Arg Phe Val His Arg Pro His Val Glu Ser Gln Lys
1 5 10 15

<210> 10

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; note =
synthetic construct

<400> 10

Ser Tyr Gln His Asp Leu Arg Ala Tyr Gly Phe Trp Arg Leu Lys
1 5 10 15